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MORRISON & FOERSTER LLP
425 MARKET STREET
SAN FRANCISCO, CA 94105-2482

EXAMINER

COLLINS, CYNTHIA E

| ART UNIT | PAPER NUMBER |
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1638

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DATE MAILED: 09/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/869,002

Applicant(s)

BARHAM ET AL.

Examiner

Cynthia Collins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on June 11, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 54-81 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 54-81 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

The Amendment filed June 11, 2003, paper no.12, has been entered.

Claims 1-53 are cancelled.

Claims 54-70 and 72-81 are currently amended.

Claims 54-81 are pending and are examined.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

All previous objections and rejections not set forth below have been withdrawn.

Claim Objections

Claim 72 is objected to because of the following informalities: the claim ends in two periods. Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claims 54-81 remain rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, for the reasons of record set forth in the office action mailed January 2, 2003.

Applicant's arguments filed June 11, 2003, have been fully considered but they are not persuasive.

Applicant argues that the claim language finds support in the specification at pages 2 and 5. Applicant also argues that the amendment of claims 55-59, 62-66, 69-73 and 76-80 to recite the characteristics of the parent plant should overcome the rejection (reply page 8).

The Examiner maintains that while the claim language finds literal support in the specification as filed, the specification does not describe or characterize any actual plant that exhibits the characteristics recited in the claims. Absent the disclosure of actual plants that exhibit the claimed characteristics, the claimed plants are not described.

Claims 54-81 remain rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, for the reasons of record set forth in the office action mailed January 2, 2003.

Applicant's arguments filed June 11, 2003, have been fully considered but they are not persuasive.

Applicant argues that it would not require undue experimentation to practice the claimed invention. Applicant asserts that the breadth of the claims is not unduly broad, as the claims cover only one type of plant, broccoli. Applicant points out that the claims are further limited to defined heat tolerance regimes. Applicant argues that the state of the art is highly developed for plant breeding methods, and that such methods are what is required to make plants commensurate in scope with the claims. Applicant additionally asserts that the level of predictability is high, and that the degree of variation among broccoli plants is insignificant and is already addressed in the claims with respect to the variation in the head size produced. Applicant asserts that the specification provides abundant guidance for breeding broccoli, and

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provides examples of 19 inbred lines and four self-incompatible lines. Applicant finally asserts that the quantity of experimentation is not undue, as the cross-breeding of different broccoli lines to produce new plants with the desired characteristics is of each parent is routine (reply page 9).

The Examiner maintains that it would require undue experimentation to practice the claimed invention. First, the breadth of the claims is unduly broad, as the claims cover multiple lines of broccoli plants of any genotype and pedigree comprising a center head diameter of 3 to 8 inches at maturity when subjected to a variety of different heat tolerance regimes. Second, to make plants commensurate in scope with the claims requires more than the knowledge of broccoli breeding methods. Making plants commensurate in scope with the claims also requires guidance with respect to which plants to breed in order to produce broccoli plants having the claimed phenotypes. The Examiner maintains that it would require undue experimentation for one skilled in the art to determine, without undue experimentation, which parental broccoli lines to cross in order to produce broccoli plants having the claimed phenotypes, as the specification provides no guidance with respect to which parental lines to cross. Furthermore, while Applicant asserts that the specification provides examples of 19 inbred lines and four self-incompatible lines, it is unclear whether any of the examples referred to exhibit the claimed phenotypes, or whether they could be used to produce offspring that exhibit the claimed phenotypic characteristics.

Claims 54, 57-58, 60-61, 64-65, 67-68, 71-72, 74-75, 78-79 and 81 remain rejected under 35 U.S.C. 112, second paragraph, as being indefinite in the recitation of “commercially acceptable”, for the reasons of record set forth in the office action mailed January 2, 2003.

Applicant's arguments filed June 11, 2003, have been fully considered but they are not persuasive.

Applicant argues that the specification provides guidance for one of skill in the art as to what "commercially acceptable" entails, and points in particular to the disclosure at pages 5-6 of the specification (reply page 10).

The Examiner maintains that the use of "commercially acceptable" in the instantly rejected claims is indefinite. The disclosure at pages 5-6 of the specification is not interpreted as limiting "commercially acceptable" as it is used in the rejected claims because the disclosure does not exclude other interpretations of "commercially acceptable".

Claims 54, 60, 61, 67, 68, 74, 75 and 81 remain rejected, and currently amended claims 55-56, 58-59, 62-63, 65-66, 69-70, 72-73, 76-77 and 79-80 are rejected, under 35 U.S.C. 112, second paragraph, as being indefinite in the recitation of "at least", for the reasons of record set forth in the office action mailed January 2, 2003.

Applicant's arguments filed June 11, 2003, have been fully considered but they are not persuasive.

Applicant argues that the recitation of specific numerical ranges does not generally raise an issue of whether the claim is indefinite. Applicant also argues that the claims do not need an upper limit in order to be definite, as the recitation of "at least" is not inconsistent with any dependent claims. Applicant points in particular to MPEP 2173.05(c) in support of these arguments (reply page 10).

The Examiner maintains that the use of "at least" in the instantly rejected claims is indefinite. First, the rejected claims do not recite a specific numerical range, because "at least" as

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it is used in the rejected claims imposes no upper limit that would define a range. Second, the Examiner disagrees that MPEP 2173.05(c) part II indicates that open-ended numerical ranges are always definite so long as they do not create inconsistencies with dependent claims. The Examiner maintains that the example set forth in MPEP 2173.05(c) part II illustrates a situation in which an inconsistency between the dependent and independent claims can be readily identified, based on an open-ended numerical range that involves percentages, for which an upper limit of 100% can be inferred. MPEP 2173.05(c) part II in fact indicates that open-ended numerical ranges should be carefully analyzed for definiteness. The use of “at least” in the instantly rejected claims is indefinite because “at least” is used in reference to temperature and time, for which an upper limit cannot be inferred.

Currently amended claim 67 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for depending upon itself.

Currently amended claim 73 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in the recitation of “wherein such tissue culture”. There is insufficient antecedent basis in claim 73 for the limitation “such tissue culture”.

Claim Rejections - 35 USC § 102

Claims 57, 64, 71 and 78 remain rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Heather et al. (J. Amer. Soc. Hort. Sci. 1992, Vol. 117, No. 6, pages 887-892, Applicant's IDS), for the reasons of record set forth in the office action mailed January 2, 2003.

Applicant's arguments filed June 11, 2003, have been fully considered but they are not persuasive.

Applicant argues that the amendment of the claims to recite the limitations of the parent claims should overcome the rejection (reply page 11).

The Examiner maintains that claims 57, 64, 71 and 78 are anticipated by, or in the alternative obvious over, Heather et al., because claims 57, 64, 71 and 78 do not recite the limitations of the parent claims.

Claim 61 remains rejected under 35 U.S.C. 102(b) as being anticipated by Heather et al. (J. Amer. Soc. Hort. Sci. 1992, Vol. 117, No. 6, pages 887-892, Applicant's IDS), for the reasons of record set forth in the office action mailed January 2, 2003.

Claim 67 also remains rejected, and currently amended claims 62-63 and 65 are rejected, under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Heather et al. (J. Amer. Soc. Hort. Sci. 1992, Vol. 117, No. 6, pages 887-892, Applicant's IDS), for the reasons of record set forth in the office action mailed January 2, 2003.

Applicant's arguments filed June 11, 2003, have been fully considered but they are not persuasive.

Applicant argues that the XPH 5168 broccoli plants taught by Heather et al. do not anticipate the claimed broccoli plants. Applicant points out that tables 4 and 5 indicate that XPH 5168 can produce marketable quality heads when exposed to elevated temperatures at six weeks, which is before the growth cycle of the head has begun, or when the head is ready for harvesting at 11 or 12 weeks, at the end of the growth cycle. Applicant also points out that tables 4 and 5 indicate that XPH 5168 cannot produce marketable quality heads if exposed to elevated

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temperatures at times when the head is actually growing. Applicant argues that the claimed invention is distinguishable from the XPH 5168 broccoli plants taught by Heather et al. in that the claimed broccoli plants produce commercially acceptable heads when exposed to 95 F for at least one day during the growth cycle (reply pages 11-12).

The Examiner maintains that claim 61 is anticipated by Heather et al., and that claims 62-63, 65 and 67 are anticipated by or in the alternative obvious over Heather et al. Neither claim 61 nor claims 62-63, 65 and 67 make reference to the growth cycle of the head. Claims 61-63 and 67 refer only to "the growth cycle of said plant", and claim 65 refers only to "the growth cycle of said regenerated plant". The plants taught by Heather et al. are exposed to a maximum temperature of 95° F (35° C) for at least 1 day during the "growth cycle", and thus anticipate the claimed plants.

Double Patenting

Claims 68-74 remain rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 6,294,715, for the reasons of record set forth in the office action mailed January 2, 2003.

Applicant's arguments filed June 11, 2003, have been fully considered but they are not persuasive.

Applicant requests that the Examiner hold the rejection in abeyance until such time as there is an indication of allowable subject matter, at which time Applicant will be able to determine whether an obvious-type double patenting rejection applies to the allowable subject matter (reply page 12).

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The Examiner acknowledges Applicant's request to hold the rejection in abeyance until such time as there is an indication of allowable subject matter. The rejection is currently maintained because the broccoli plants of claims 68-74 exhibit the same phenotypic characteristics as the broccoli plants claimed in U.S. Patent No. 6,294,715.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Remarks

No claim is allowed.

Claims 54-56, 60, 66, 68-70, 72-77 and 79-81 are deemed free of the prior art due to the failure of the prior art to teach or suggest broccoli plants comprising a center head diameter of 3 to 8 inches at maturity when said plant is exposed to a maximum temperature of 90° F for at least 5 consecutive days during the growth cycle, a maximum temperature of 85° F for at least 15 days

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during the growth cycle, or a maximum temperature of 80° F for at least 20 days during the growth cycle; or tissue culture of a broccoli plant comprising a center head diameter of 3 to 8 inches when said plant is exposed to a maximum temperature of 95° F for at least 1 day during the growth cycle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (703) 605-1210. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (703) 306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

CC
August 28, 2003

DAVID T. FOX
PRIMARY EXAMINER
GROUP 180-1638

A handwritten signature in black ink, appearing to read "David T. Fox", written over the printed name and title.